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G05B 13/02(21) Application number: **09137875**(22) Date of filing: **12.05.97**(71) Applicant: **MITSUBISHI HEAVY IND LTD**(72) Inventor: **FUJIWARA TOSHIKATSU**
IWAI MASATAKA**(54) PROCESS CONTROLLER FOR CLOSED LOOP SYSTEM INCLUDING PID ADJUSTER**

(57) Abstract:

PROBLEM TO BE SOLVED: To provide a process controller for a closed loop including a PID adjuster by which the proportional gain of the PID adjuster is automatically calculated so as to obtain always proper value without being affected adversely by the secular change of a process characteristic.

SOLUTION: The closed loop system including the PID adjuster consisting of the three operation of proportion, integration and differentiation for outputting a process and operation variable with respect to the process according to a target value is provided with a means setting the proportional gain of the PID adjuster with the target value and the output of a control gain adjuster arithmetic-processed based on a control variable outputted from the process at the time of varying the target value. To put it in the concrete, the proportional gain of the PID adjuster is made variable, at the time of varying the target value $r(t)$, an error between them is inputted to an integrator so as to make the absolute value of the fine coefficient of the control variable $y(t)$ close to a desirable value α^* and the output of the integrator is made the proportional gain of the PID adjuster. Then, a desirable value α^* is provided with a value only until some period passes after the fluctuation of a target value $r(t)$ but becomes zero after then.

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